

*Abstract of the Invention*

It is shown here that *hedgehog* proteins possess novel activities beyond phenotype specification. Using cultures derived from the embryonic day 14.5 (E14.5) rat ventral mesencephalon, we show that *hedgehog* is also trophic for dopaminergic neurons. Interestingly, *hedgehog* not only promotes dopaminergic neuron survival, but also promotes the survival of midbrain GABA-immunoreactive (GABA-ir) neurons.

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